Usable versus Overall Tracheal Tube Length: The Difference May Be Critical

To the Editor — Assi recently suggested that tracheal intubation through the laryngeal mask airway (LMA) may be accomplished using the 6.0-mm reinforced tracheal tube (Mallinckrodt, Athlone, Ireland) when sufficient tracheal tube length is a consideration. The possibility of intralaryngeal or supraglottic tracheal tube cuff positioning after intubation with a standard 6.0-mm tracheal tube passed through the LMA has been previously described, and suggested solutions have included the use of tubes with additional length such as the extra-long 5.0-mm microlaryngeal tracheal tube (Mallinckrodt, St. Louis, MO), the nasal RAE® (Mallinckrodt), or ‘splicing’ two tubes together.

We agree with Assi that the reinforced tube may be preferable because of its greater flexibility and increased diameter compared with the 5.0-mm microlaryngeal tube; however, he incorrectly states that the length of the 6.0-mm reinforced tube is 35 cm. By the manufacturer’s specifications and our own measurements, the length of the 6.0-mm reinforced tracheal tube measured from its distal tip to the proximal polyvinyl chloride end of the tube is 29 cm. Possibly, Assi included the connector length when measuring the tube and reported its overall length, which is 33 cm. Because the connector does not pass into the LMA and is extremely difficult to remove from this tube, by design, it should not be included when calculating usable tube length. We considered the possibility that the reinforced tube manufactured outside the United States may be of a different length, although the manufacturer confirms that the dimensions are universally consistent. In actuality, the reinforced tracheal tube is identical in length to a standard tracheal tube; therefore, it offers no advantage when additional tracheal tube length is necessary for reliable tracheal tube cuff positioning during intubation through the LMA.

**References**

1. **Assi T.** Tracheal intubation through the laryngeal mask airway. *Anesthesiology* 1996; 85:459
3. **Allen FD.** Laryngeal mask airway and the ASA difficult airway algorithm: I. *Anesthesiology* 1996; 85:685

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**In Reply —** Firstly, I point out that, before publication of the three articles to which Harvey et al. refer, I had already detected possible damage to the vocal cords associated with tracheal intubation through the laryngeal mask and provided several solutions (including the use of a 5.0-mm microlaryngeal tube). I have noticed recently that there are two types of 6.0-mm Mallinckrodt reinforced tracheal tubes — with and without a Murphy eye. The tube to which I referred in the previous letter does not have a Murphy eye and is manufactured in Ireland. I have used it in about 100 patients in the UK, and the lengths of these tubes were always between 31 and 33 cm (excluding the connector part) (fig. 1). Another group in the UK also has found this advantage. In contrast, as Harvey et al. claim, the length of the tube without a Murphy eye (manufactured in United States) seems to be similar to that of a ‘standard’ tube (about 28.5 cm).

I also contacted the manufacturer, which stated that the specified lengths should be similar between these two tubes (29.8 and 30.0 cm). However, the manufacturer admitted that, at the moment, the tube could be 2 cm shorter than these specifications (to be discussed). That means that the length of these reinforced tubes may not always be longer than usual. I found such a variability in another type of Mallinckrodt tube, the Endotrol tube. Therefore, the 6.0-mm Mallinckrodt reinforced tube, in particular the tube that has a Murphy

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**Fig. 1.** A 6.0-mm Portex polyvinylchloride “standard” tube (A) and a 6.0-mm Mallinckrodt reinforced tube (Athlone, Ireland; B). The length of the Mallinckrodt tube (33 cm) is markedly longer than the Portex tube (28.5 cm).